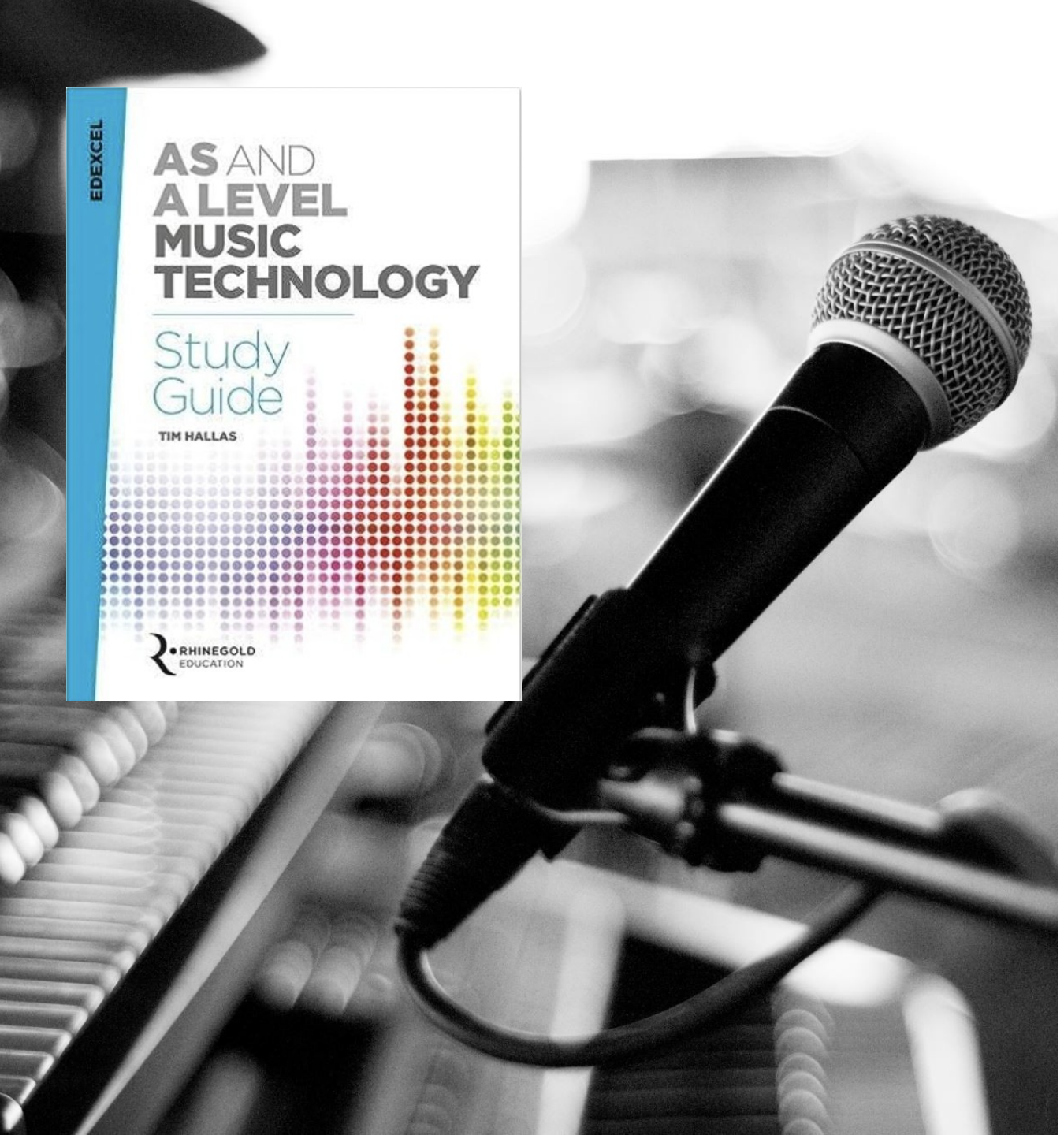
Music Technology

Week 6

Music Technology Contents

- Review Homework
- **Listening**
- Sound Gym
- **Mix Bus**
  - EQ
  - Compression



Textbook + Folder

- Go to the library and get a copy of: Music Technology Study Guide
- Get a Folder to hold all of your paperwork
- Bring a pen and paper or notebook to the lessons.

Reverbs

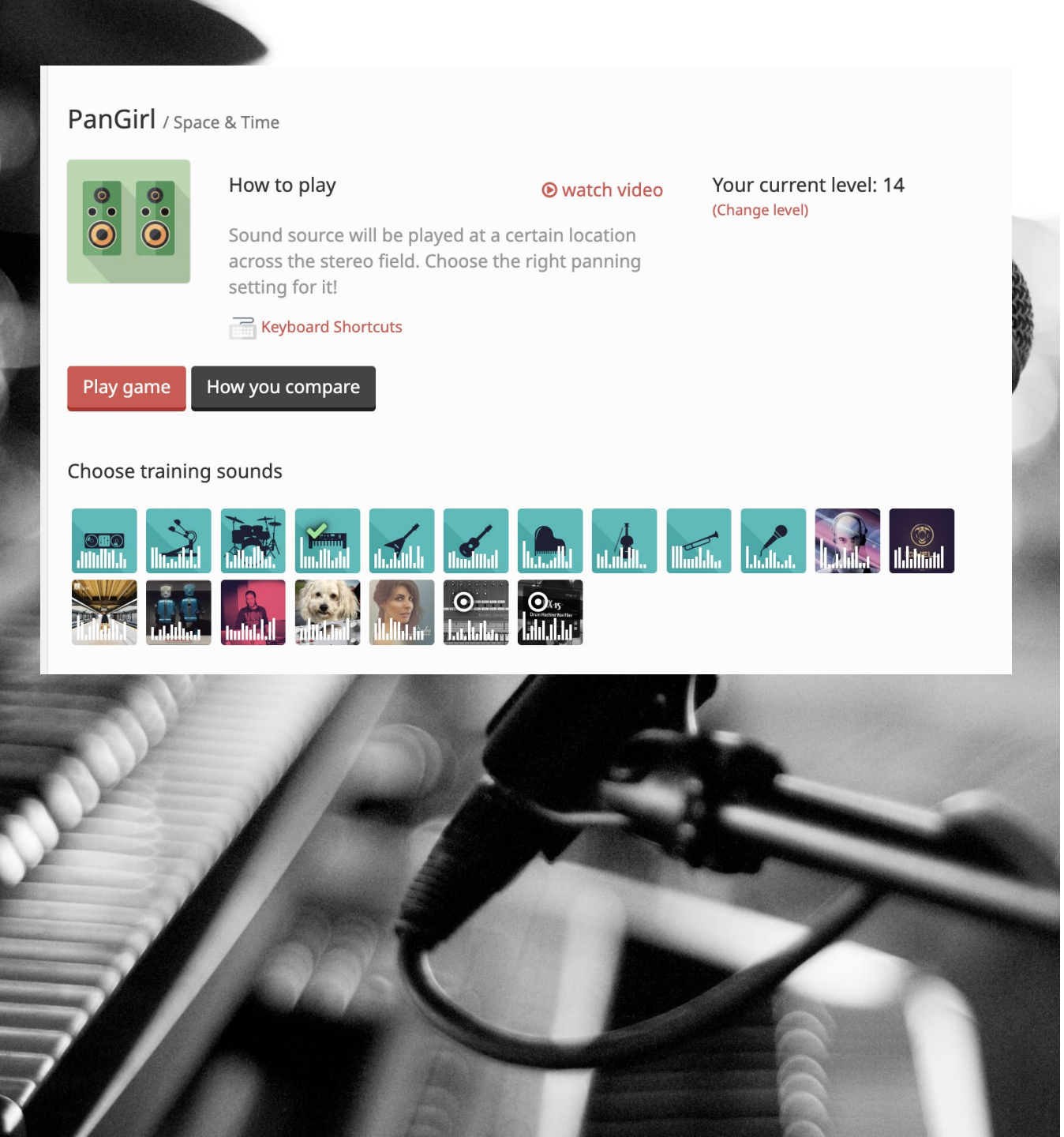
- https://www.sweetwater.com/insync/5-types-of-reverb-explained-hall-chamber-room-plate-and-spring/

- Hall – concert hall
- Chamber – specially designed studio chambers
- Room – normal acoustic space
- Plate – Large metal plate that vibrates
- Spring – spring that vibrates

Listening Exercise – Beach Boys

Take notes for the homework.

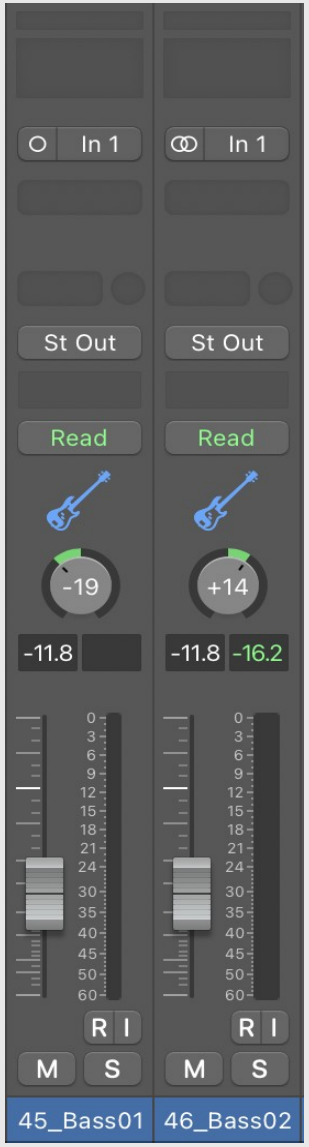
- Instrumentation?
- Panning?
- Effects? E.g. Delay
- Recording Process (e.g. Mono, Multitrack Tape, Digital) and the impact.


PanGirl / Space & Time
How to play
watch video
Your current level: 14
(Change level)
Sound source will be played at a certain location across the stereo field. Choose the right panning setting for it!
Keyboard Shortcuts
Play game
How you compare
Choose training sounds

Stereo Field

How much signal comes out of each speaker

Mono
Left
Right
Wide
Narrow



Drum Sound

Wet/Dry
Large/small (dynamic range)
Bright/Dark
Mono/Stereo
Left/Right
Clean/Distorted
Wide/Narrow
Hifi/Lofi

Recording Techniques

Single Mic / Multiple mics

Single Take / Multiple Takes (overdubbing)

Single Track / Double Track

One Room / Isolation

Close mic / Room mics

Bouncing using tape

- Bouncing down using tape, also known as ping-pong recording, is a technique for combining multiple tracks into one on a tape recorder to free up tracks for recording. It's a useful method when using tape recorders with a limited number of tracks, and can also simplify mixdowns.
- Here's how to bounce down using tape:
- Leave track 4 empty on the tape recorder.
- Record tracks 1–3.
- Set the channel switch to tape on channels 1–3.
- Pan all tracks to the right.
- Set the faders and master fader to a good level.
- Set the monitor, select line out, and switch to mono.
- Set the record function switch of track 4 to bus R.
- Press play and listen to the mix of tracks 1–3.
- Make any necessary fader or EQ adjustments

Tape Bouncing

Wow / Flutter
Destructive / Non-Destructive
Noise Floor
Saturation
Frequence Response
Track Count

Music Technology - Q5 / 15

	AO3 - Knowledge /5	AO4 - Analysis /10
Capture		
Sampling		
Synthesis		
Effects		

Music Technology - Pink Floyd

	AO3 - Knowledge	AO4 - Analysis
Capture	• Tape • DAW • Live vocal / sampled vocals	• noise, saturation, track count, Tape Hiss, Narrow frequency range • Sequencing/programming. Broad frequency range. Time and pitch controlled in the DAW. Tempo change/dance genre. • Repetition vs unique performance
Sampling	• In Remix Guitar parts are reused • Vocals reused • Playground noises	• Faster tempo. Alternates with new synth parts. • Keeps the lyrical content. • Recorded outside the studio on tape then added to the multitrack.
Synthesis	• Synth pads / layers add to sample of original track. • Use of keys (hammond) as backing for guitar solo	• LFOs, white noise, filters, envelopes (ADSR)Use of filters adds development. • Tremolo/modulation create a sense of movement
Effects	• Reverb • Compression • Filters	• 0'19'' Long reverb on vocal – drums more dry Space/depth • 0'02'' Drums are punchy and loud • Drums are filtered at 2'05'' High cut automated to create build.

Music Technology - Q5

	AO3 - Knowledge	AO4 - Analysis
<u>Capture</u>	• Original is captured through mics and recorded live. • Remix is sequenced in a DAW. • Remix takes stems from the original as the basis for the track. • The remix has lots of vocal layers taken from the original giving the impression of overdubbing. • Piano is used in the remix but it is sequenced and isn't sampled from the original.	
Sampling	• No sampling in the original, all acoustic instruments. • The samples in the remix are made from stems from the original. • Vocal samples are looped and stuttered in places. • Vocals from the original are also 'scratched'. • Drums are looped from the original.	

Music Technology - Q5

	AO3 - Knowledge	AO4 - Analysis
Synthesis	• No synthesis in the original; all acoustic instruments. • Synths replace the horn section in places from the original. • Synth bassline replaces the double bass from the original.	
Effects	• There is limited use of effects in the original. • Vocals have the most processing on them with reverb and compression in the original. • Delay is used most prominently on the vocals in the remix. • Stereo widening/ADT is applied to the vocals in places in the remix. •Automated filters are used in the remix.	

Listening Exercise – Captain Beefheart

Take notes for the homework.

- Instrumentation?
- Panning?
- Effects? E.g. Delay
- Recording Process in 1974 (e.g. Mono, Multitrack Tape, Digital) and the impact.

Acoustic recordings
1877

Electronic Mics 1925

Magnetic tape 1945

Digital 1975

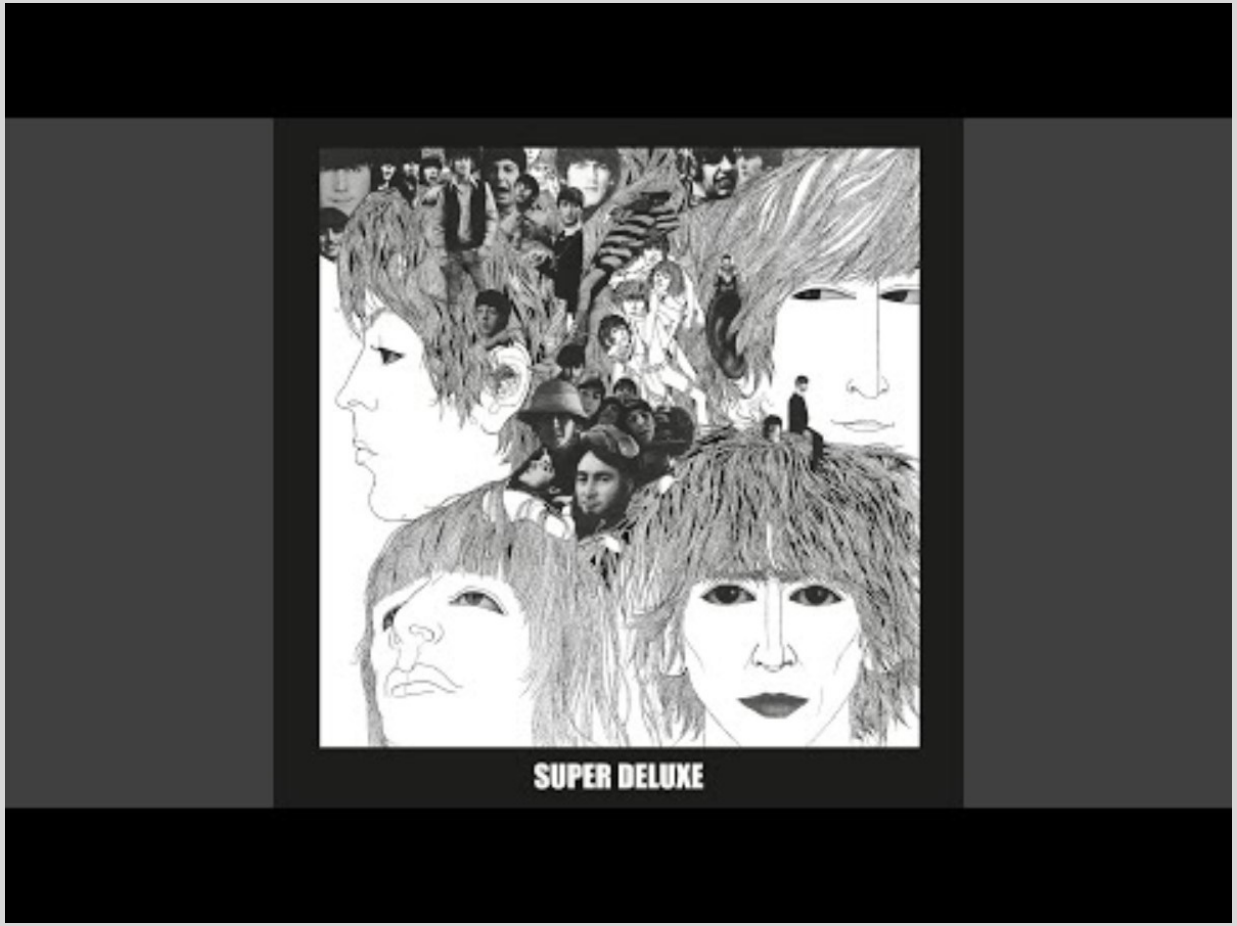
Dynamic Processing

- Compressor
- Limiter
- Gate
- Expander

Listening Exercise – Tomorrow Never Knows

- Dynamic Processing?
- Use of Tape?
- Production Techniques?
- Recording process?
- Effects?

- Watch the sound from 13.40



Listening Exercise – A Little You 1955

- Recording process?
- Characteristics of a 1950s recording?
- Instrumentation
- Dynamic Processing?
- Production Techniques?
- Effects?
- Mastering?
- Modern Remastering?

Listening Exercise – A Little You

- The U 47, introduced in 1949, was a technical revolution and is still considered the indisputable reference for perfect sound. With its well-balanced, extremely vivid response and excellent low-noise performance, this tube microphone raised the bar to a whole new level. Although production had to be discontinued in 1965, the U 47 has remained an extremely sought-after studio microphone that no world-class studio should be without.
- The U 47 is the first Neumann microphone developed after the Second World War. Instead of reissuing pre-war models, Georg Neumann decided to make a fresh start, as tube technology in particular had made enormous progress. This meant that the housing could be designed relatively compact – by the standards of the time. Electronic polar pattern switching between cardioid and omnidirectional was a complete novelty. Swapping capsule heads was no longer necessary, and the capsule could be integrated into the microphone housing. This was the birth of the modern studio microphone.

Listening Exercise – Praise You

- Fatboy Slim used Akai S950 samplers on his 1999 hit song "Praise You".

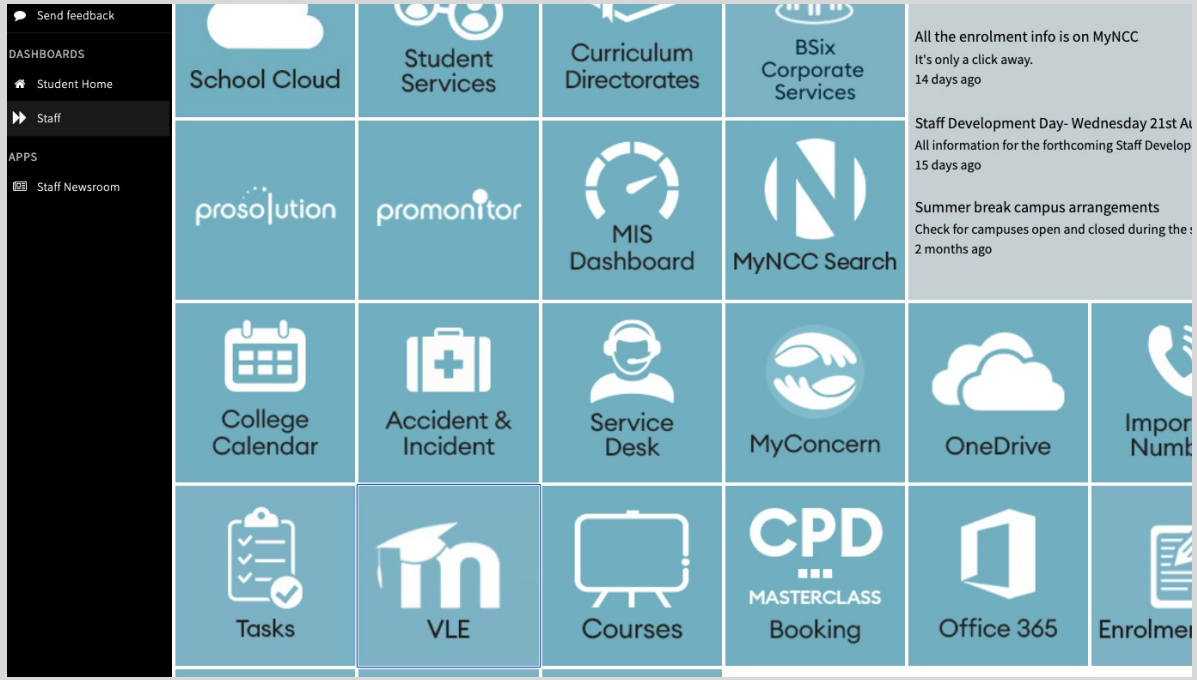
- The song features a prominent vocal sample from the opening of "Take Yo' Praise" by Camille Yarbrough, as well as a prominent piano sample from the track "Balance and Rehearsal" from a test album entitled Sessions released by audio electronics company JBL in 1973.

Listening Exercise – Praise You

- What are sample rates?
- Audio sampling is the process of transforming a musical source into a digital file. Digital audio recording does this by taking samples of the audio source along the soundwaves at regular intervals. The more samples you take - known as the ‘sample rate’ - the more closely the final digital file will resemble the original. A higher sample rate tends to deliver a better-quality audio reproduction.
- The audio bit depth determines the number of possible amplitude values we can record for each audio sample.

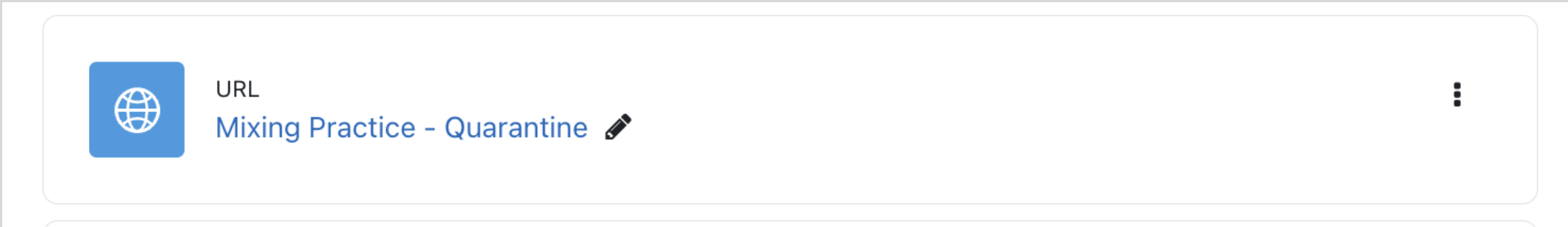
Listening Exercise – Praise You

Mixing Task

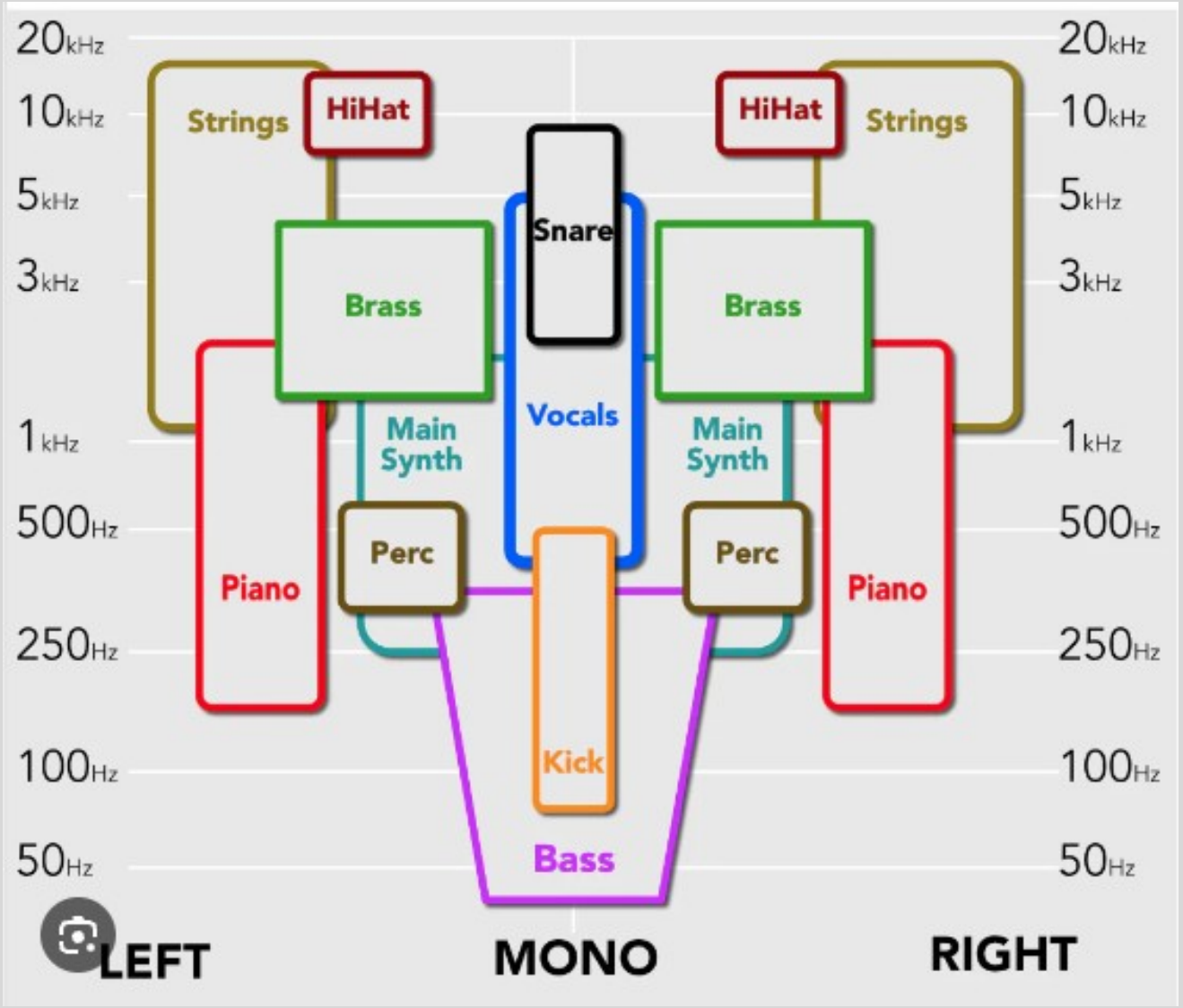


What is the Aim of Mixing?

Exporting a mix.



Mixing

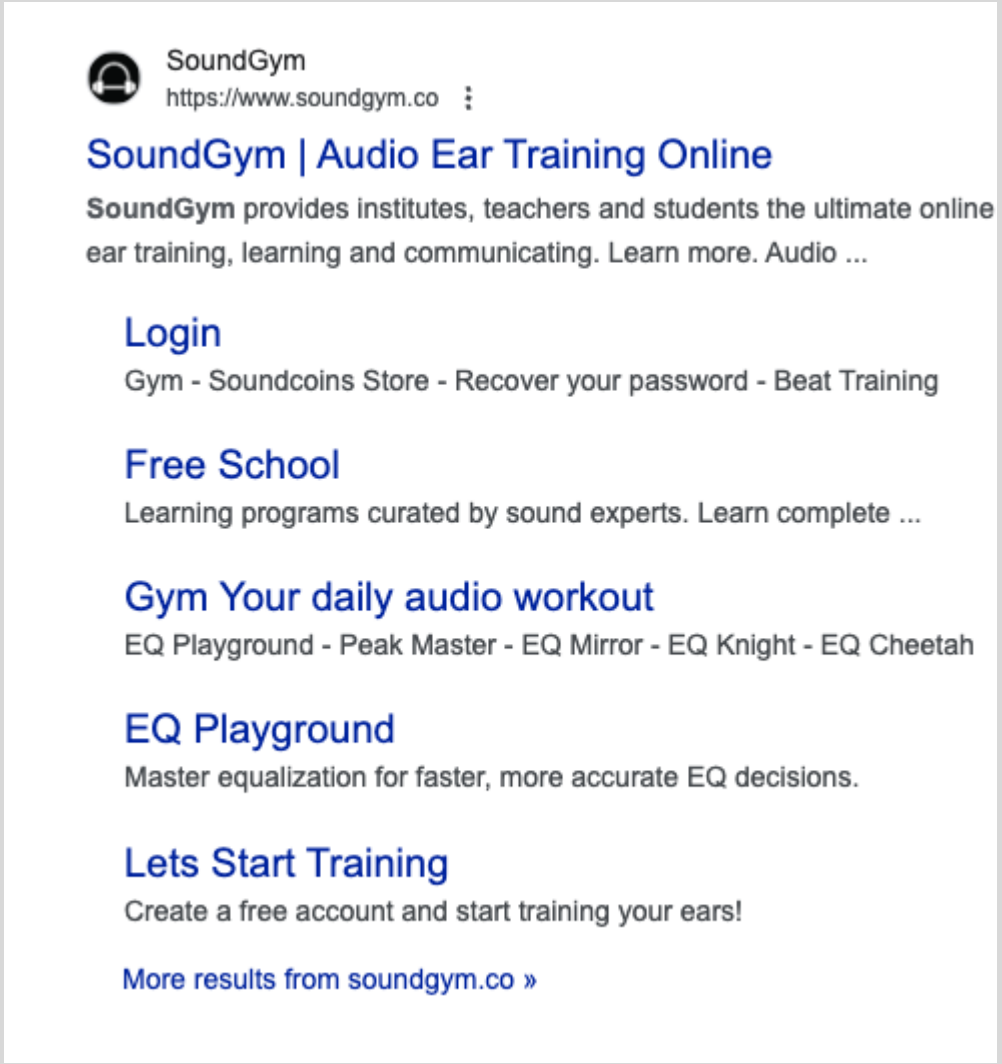

20kHz
10kHz
5kHz
3kHz
1kHz
500Hz
250Hz
100Hz
50Hz
Strings
HiHat
Brass
Snare
Vocals
Main Synth
Perc
Piano
Kick
Bass
HiHat
Strings
Brass
Main Synth
Perc
Piano
LEFT
MONO
RIGHT

Mixing Task

- Download the zip file from the vle
- Create a folder on the desktop called 'my father never loved me'
- Put the zip file in there and expand.
- Create a logic project and save it into the same folder
- Import the audio files (drag and drop)
- Balance the faders (turn them all down the bring them up slowly one at a time
- Pan the instruments
- Export the mix (16bit Wav)

Sound Gym

- Go to Soundgym
- Create an account with a non-college email e.g. gmail

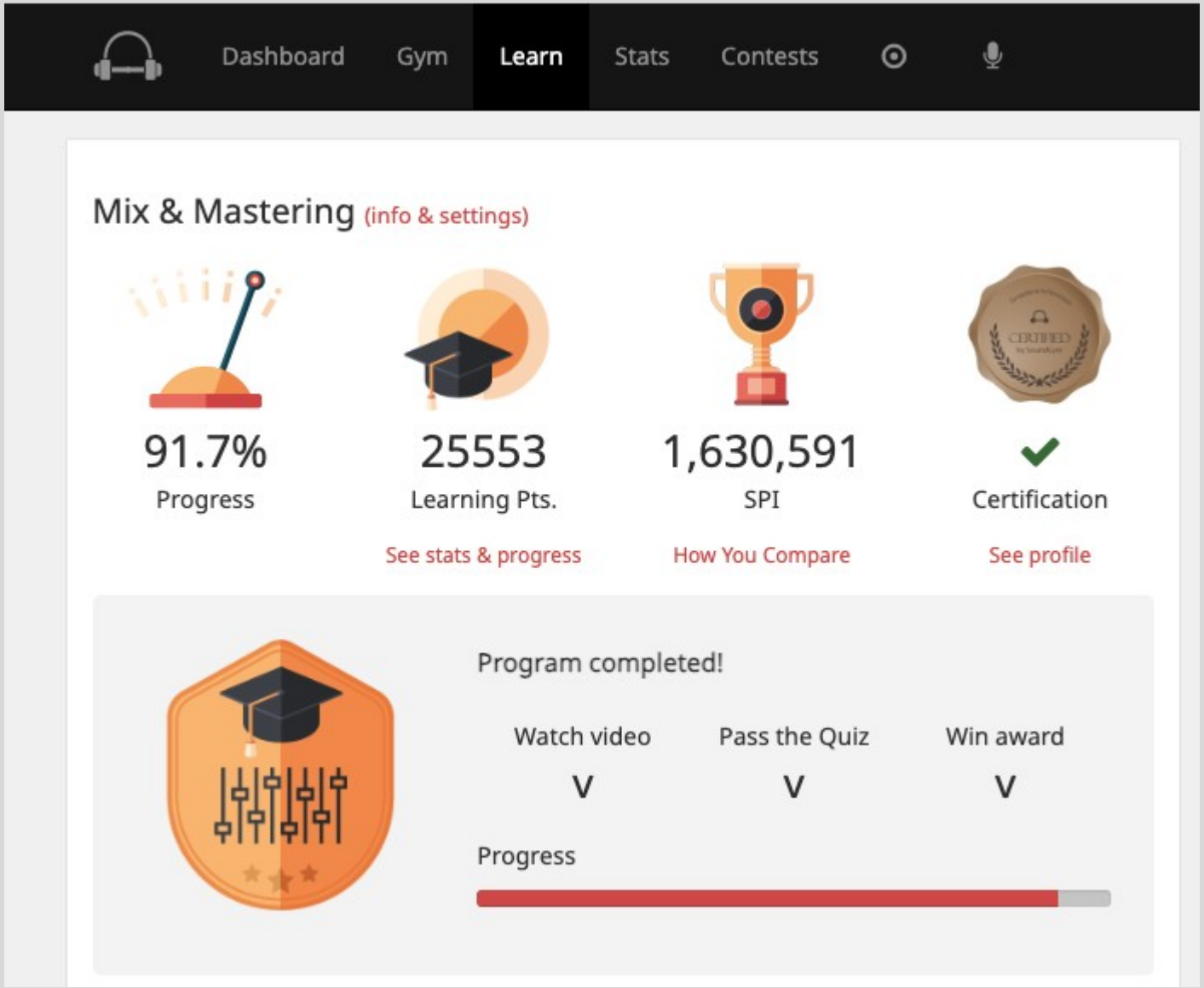

SoundGym
https://www.soundgym.co
SoundGym | Audio Ear Training Online
SoundGym provides institutes, teachers and students the ultimate online ear training, learning and communicating. Learn more. Audio ...
Login
Gym - Soundcoins Store - Recover your password - Beat Training
Free School
Learning programs curated by sound experts. Learn complete ...
Gym Your daily audio workout
EQ Playground - Peak Master - EQ Mirror - EQ Knight - EQ Cheetah
EQ Playground
Master equalization for faster, more accurate EQ decisions.
Lets Start Training
Create a free account and start training your ears!
More results from soundgym.co »

Mixing

- Download the zip folder from the VLE
- Enrol on the sound gym mixing and mastering course; watch the videos that fit with what you need.
- Practice mixing.

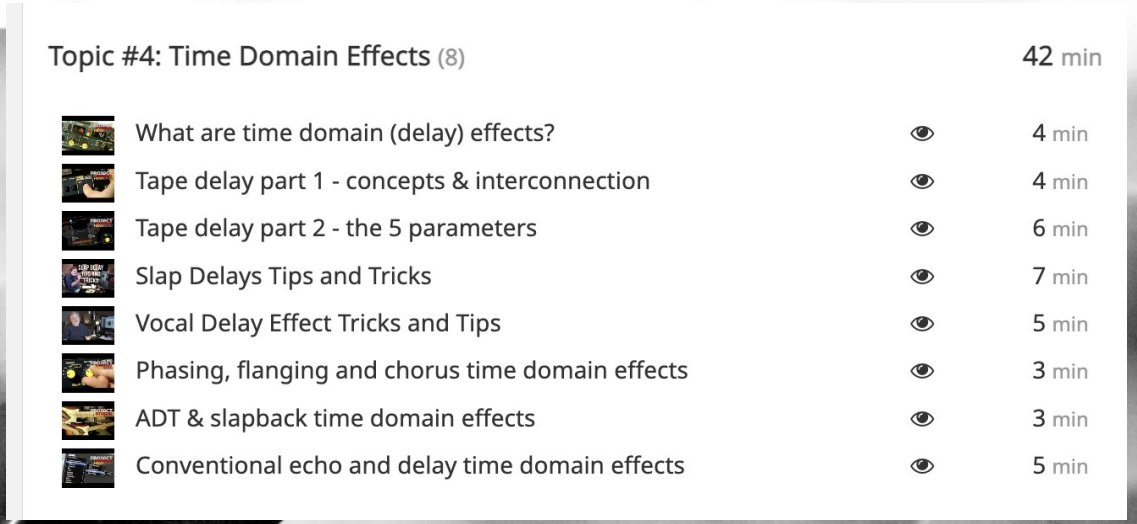
Sound Gym

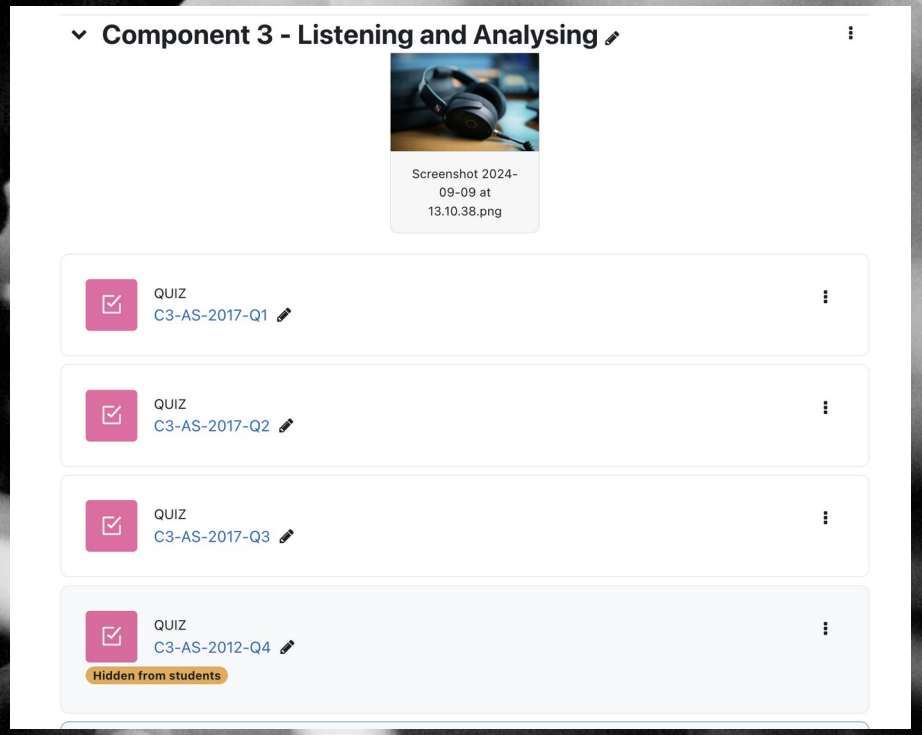
- Navigate to the learn section and enrol on mix and mastering

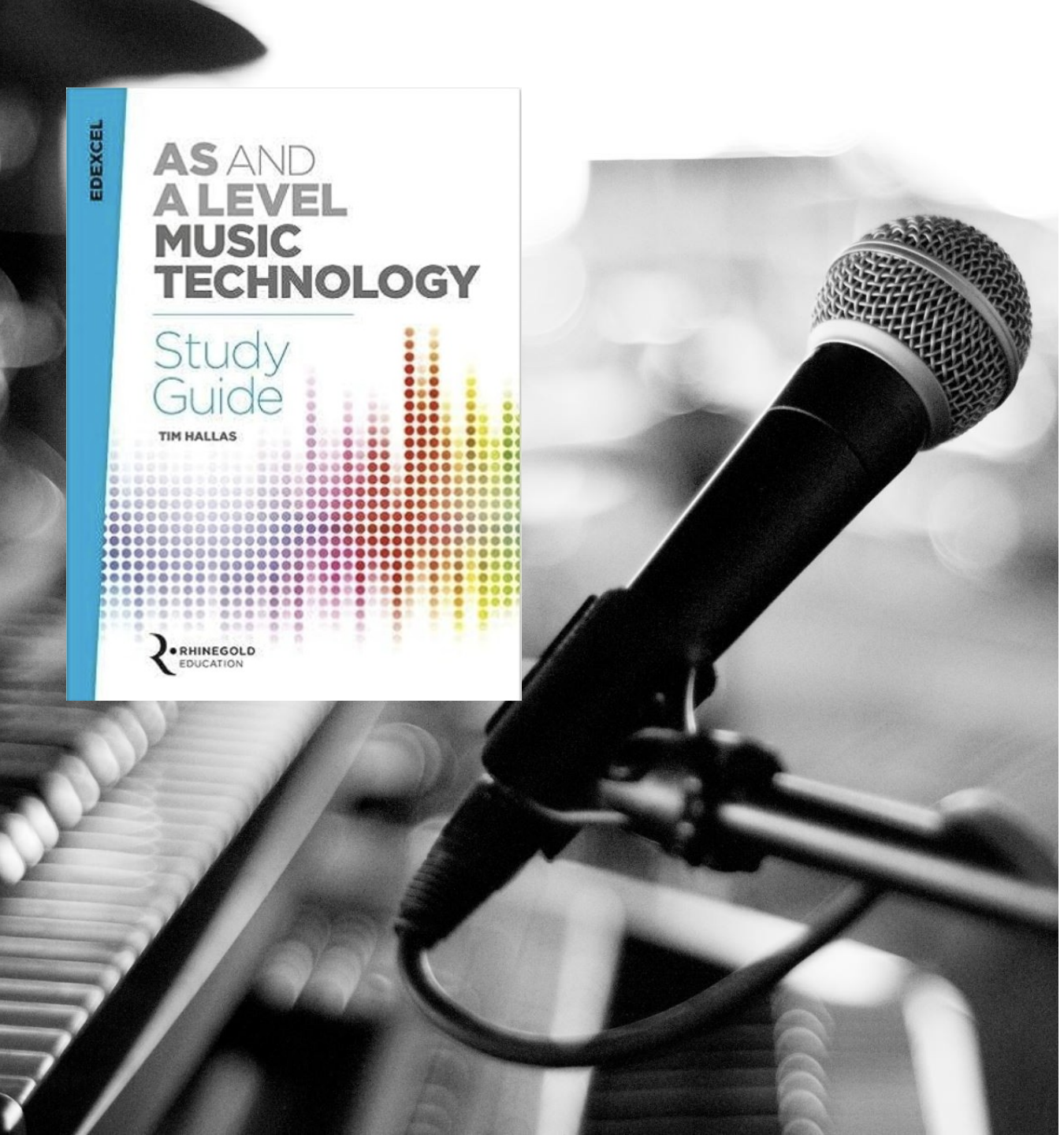


Homework

- Watch the videos for topic 3 for homework.
- Do the moodle/vle quiz


Topic #4: Time Domain Effects (8)
42 min
What are time domain (delay) effects?
4 min
Tape delay part 1 - concepts & interconnection
4 min
Tape delay part 2 - the 5 parameters
6 min
Slap Delays Tips and Tricks
7 min
Vocal Delay Effect Tricks and Tips
5 min
Phasing, flanging and chorus time domain effects
3 min
ADT & slapback time domain effects
3 min
Conventional echo and delay time domain effects
5 min





Vocab test

- Learn key terms from p161 in the glossary